

ALGOMA UTILITIES

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January 23, 2001

Jim Loock, Chief Electric Engineer **Public Service Commission** 610 N. Whitney Way P.O. Box 7854 Madison, WI 53707-7854

> In the Matter of Filing Plans for Appropriate Inspection and RE:

Maintenance, PSC Rule 113.0607.

Dear Mr. Loock:

Enclosed for filing are 3 copies of Algoma Utilities Preventative Maintenance Plan detailing inspection maintenance schedules, condition rating criteria, corrective action schedules, record keeping procedures and report filing schedules as documented in this rule.

Very truly yours,

James LeCloux, Jr. General Manager

Enclosures

RECEIVED

JAN a -2001

Electric Division

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Powering Wisconsin Communities

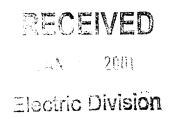
PREVENTATIVE MAINTENANCE PLAN

Algoma Utilities

FILING DEADLINE FEBRUARY 1, 2001

December 19, 2000

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This plan was prepared by the MEUW work group for PSC Rule 113.0607 for use by the 82 municipal electric utilities in Wisconsin and endorsed by PSC staff as meeting the requirements of Rule PSC 113.0607.

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I. Preventative Maintenance Plan

The PSC 113.0607 rule reads;

Appropriate inspection and maintenance: system reliability.

- (1) PREVENTATIVE MAINTENANCE PLAN. Each utility or other person subject to this chapter, including persons who own electric generating facilities in this state who provide service to utilities with contracts of five years or more, shall develop and have in place its own preventative maintenance plan. This section is applicable to electric generating facilities as set forth at s. 194.491(5)(a)(1), Stats. Each plan shall include, among other things, appropriate inspection, maintenance and replacement cycles where applicable for overhead and underground distribution plant, transmission, generation¹, and substation facilities.
- (2) CONTENTS OF THE PLAN. (a) *Performance standard*. The Preventative Maintenance Plan shall be designed to ensure high quality, safe, and reliable service, considering: cost, geography, weather, applicable codes, national electric industry practices, sound engineering judgment and experience.
- 1 PSC staff interpretation is that generation applies to individual generators equal to or greater than 50 MW.

II. Inspection Schedule and Methods:

The purpose of this plan is to maintain or improve the electrical system reliability with the objective of increased municipal loyalty and satisfaction from our constituents. The goals are to meet and exceed the schedules established in this plan.

Exception reporting (inspected equipment not in good condition) will be the method of documentation on all inspection forms.

The scope of this plan is traditional and uses proven maintenance techniques. Unique operating and maintenance philosophies have not been considered. Also, manufacturer defects will be dealt with as they are communicated to this utility.

EVERY

SCHEDULE:	MONTHLY	ANNUAL	5 YEARS
Transmission (• 69Kv and above)		X	X
Substations	X	X	
Distribution (OH & UG)			X

The inspection of Distribution facilities will be by individual substation circuits on a 5-year cycle such that the entire system will be inspected every 5 years. Inspector instructions for inspecting all facilities and forms are included with the plan.

METHODS: Five criteria groups will be used to complete the inspection of all facilities.

- 1. <u>IR</u> infrared thermography used to find poor electrical connections and/or oil flow problems in equipment.
- 2. <u>RFI</u> Radio Frequency Interference, a byproduct of loose hardware and connections, is checked using an AM radio receiver.
- 3. <u>SI</u> structural integrity of all supporting hardware including poles, crossarms, insulators, structures, bases, foundations, buildings, etc.
- 4. <u>Clearance</u> refers to proper spacing of conductors from objects, trees and other utility cables.
- 5. <u>EC</u> equipment condition on non-structural components such as circuit breakers, transformers, regulators, reclosers, relays, batteries, capacitors, etc.

III. Condition Rating Criteria:

This criterion, as listed below, establishes the condition of a facility and also determines the repair schedule to correct deficiencies.

- 0) Good condition
- 1) Good condition but aging
- 2) Non-critical maintenance required normally repair within 12 months
- 3) Priority maintenance required normally repair within 90 days
- 4) Urgent maintenance required report immediately to the utility and repair normally within 1 week

IV. Corrective Action Schedule

The rating criteria as listed above determine the corrective action schedule.

V. Record Keeping

All inspection forms and records will be retained for a minimum of 10 years. The inspection form contains all of the required critical information i.e. inspection dates, condition rating, schedule for repair and date of repair completion.

VI. Reporting Requirements

A report and summary of this plan's progress will be submitted every two years with the first report due to the Commission by February 1, 2003. The report will consist of a letter documenting the percent of inspections achieved compared to the schedule and a description of maintenance achieved within the scheduled time allowance.

XI TRANSMISSION - ANNUAL INSPECTION GUIDE (con't)

RFI CHECK

- Splices
- Connectors
- Dead Ends
- Switches
- Structures

XII TRANSMISSION - 5 YEAR INSPECTION GUIDE

IR SCAN

- Splices
- Connectors
- Dead Ends
- Switches

XI TRANSMISSION - ANNUAL INSPECTION GUIDE

STRUCTURE

- Pole Condition
- Pole Leaning
- Crossarm Condition
- Insulators, Deadend, Pin
- Excess Fill or Soil Removal
- Pole Steps
- Grounds Intact
- Ground Molding
- Down Guys
- Guy Markers
- Guy Bonding/Insulator
- Signage Location Number, Warning Sign
- Customer Equipment
- Conductor
- Tie Wires

EQUIPMENT

- Switches GOAB, Disconnect
 - ✓ Insulator Condition
 - ✓ Operating Handle/Locks
 - ✓ Linkage
 - ✓ Grounding/Bonding
 - ✓ Switch Number
- Arrestor
 - ✓ Insulator Condition
 - ✓ Connections

CLEARANCES

- Ground Line
- Buildings, Bridges, Etc.
- Communications Facilities
- Fuel Tanks
- Other Electric Utilities
- Over Streets, Roads, Alleys, Highways
- Tree Trimming
 - ✓ Clearance From Line
 - ✓ Vines on Poles
 - ✓ Danger Trees

VII DISTRIBUTION - OVERHEAD INSPECTION GUIDE (con't)

EQUIPMENT (CON'T)

- Arrestor
 - ✓ Insulator Condition
 - ✓ Connections
 - ✓ Ground Lead Disconnection
- Cable Terminators
 - ✓ Insulator Condition
 - √ Grounding/Bonding

CLEARANCES

- Ground Line
- Buildings, Bridges, Swimming Pool, Etc.
- Communications Facilities
- Fuel Tanks
- Other Electric Utilities
- Transmission Lines
- Over Streets, Roads, Alleys, Highways
- Tree Trimming
 - ✓ Clearance From Line
 - ✓ Vines on Poles
 - ✓ Danger Trees

INFRARED SCAN

- Main Three-Phase Feeders
- Priority Overhead Transformer Banks
 - ✓ Bushing Connectors Primary
 - ✓ Bushing Connectors Secondary
 - ✓ General Tank Heating
- Current & Voltage Transformers if Applicable

RFI CHECK

OH system with AM radio as each circuit is inspected

VII DISTRIBUTION - OVERHEAD INSPECTION GUIDE

STRUCTURE

- Pole Condition
- Pole Leaning
- Crossarm Condition
- Insulators, Deadend, Pin
- Excess Fill or Soil Removal
- Pole Steps
- Grounds Intact
- Ground Molding
- Down Guys
- Guy Markers
- Guy Bonding/Insulator
- Signage Location Number, Warning Sign
- Customer Equipment
- Conductor
- Tie Wires
- U Guard/Conduit Condition

EQUIPMENT

- Transformers
 - ✓ Oil Leaks
 - ✓ Bushing Condition
 - ✓ Grounding/Bonding
- Capacitors
 - ✓ Fuses Blown
 - ✓ Bushing Condition
 - ✓ Oil Leaks
 - ✓ Tank Bulged
 - ✓ Switches, Oil, Vacuum
 - ✓ Control Conduit/Wiring
 - ✓ Grounding/Bonding
- Switches GOAB, Inline, Disconnect
 - ✓ Insulator Condition
 - ✓ Operating Handle/Locks
 - ✓ Linkage
 - ✓ Grounding/Bonding
 - ✓ Switch Number
- Cutouts
 - ✓ Insulator Condition
 - ✓ Fuse Size Tag

VIII DISTRIBUTION - UNDERGROUND INSPECTION GUIDE

STRUCTURAL (Exterior & Interior) Transformer, Primary Pedestal, Secondary Pedestal, Switchgear.

- Enclosure Condition
- Level/Leaning
- Security
- Grade/Accessibility (Shrubs, Customer Facilities, Fill/Excavation)
- Numbering
- Voids/Gaps
- Signage Location Number, Warning Sign
- Pad/Vault Condition

EOUIPMENT

- Transformers
 - ✓ Oil Leaks
 - ✓ Bushing Condition
 - ✓ Grounding/Bonding
 - ✓ Elbows
 - ✓ Arrestors
 - √ Feed-Through
 - ✓ Cable Condition
 - ✓ Secondary Connections
- Primary Pedestals
 - ✓ Elbows
 - ✓ Junction Condition
 - ✓ Grounding/Bonding
- Secondary Pedestals
 - ✓ Secondary Connections
- Switches URD Switchgear
 - ✓ Insulator Condition
 - ✓ Operating Handle Security
 - ✓ Linkage
 - ✓ Grounding/Bonding
 - ✓ Switch Number/Fuse Size & Number

INFRARED SCAN and RFI CHECK

- Main Three-Phase Feeders (Risers & Switchgear)
- Priority URD Transformer Banks
 - ✓ Bushing Connectors Primary
 - ✓ Bushing Connectors Secondary
 - ✓ General Tank Heating

IX SUBSTATION - MONTHLY INSPECTION GUIDE

TRANSFORMER MAIN TANK:

- Oil in bushings
- Bushing and arrestor porcelain
 - ✓ Cracks or chips
 - ✓ Rust or dirt
- Oil leaks
 - ✓ Main tank
 - ✓ Sample valves
 - ✓ Radiators
- Radiator bank
 - ✓ warm on top, cool at bottom
- Tank pressure
- Tank oil level
- Temperature gauge
- Cooling fans

TRANSFORMER LTC or VOLTAGE REGULATORS:

- Tank oil level
- Drag hand positions
- Cabinet light
- Operation count
- Tank pressure
- Cabinet heater
- Cabinet contamination

TRANSMISSION CIRCUIT BREAKERS:

- OPEN/CLOSED indicator
- CHARGED/DISCHARGED indicator
- Cabinet light
- Cabinet heater
- Operations counter
- Bushings and supports
 - ✓ Cracks or chips
 - ✓ Rust or dirt
- Line and load side disconnect switches
 - ✓ Properly labeled
 - ✓ Aligned properly
- Handles grounded
- Emergency trip button
- Air / Oil compressors
- Air / Oil pressure gauge
- Spring operated mechanism
- Oil level gauge
- Tank oil leaks
- · Reset switch
- Cabinet contamination
- Vents clean
- Gas pressures for GCBs

IX SUBSTATION - MONTHLY INSPECTION GUIDE (con't)

FEEDER CIRCUIT BREAKERS / RECLOSERS

- OPEN/CLOSED indicator
- CHARGED/DISCHARGED indicator
- Cabinet light
- Cabinet heater
- Operations counter
- Bushings and supports
 - ✓ Cracks or chips
 - ✓ Rust or dirt
- Line and load side disconnect switches
 - ✓ Labeled properly
 - ✓ Aligned properly
 - ✓ Handles grounded
- Emergency trip button
- Oil level gauge
- Tank oil leaks
- Reset switch
- Cabinet contamination
- Vents clean
- Gas pressures for GCBs

HIGH AND LOW VOLTAGE BUSS WORK:

- Bushing, insulator, arrestor, and support insulators
 - ✓ Chips or cracks
 - ✓ Rust or dirt
- Bird nests
- Potential transformers bushings
 - ✓ Cracks or chips
 - ✓ Rust or dirt
- Cable terminators
 - ✓ Leaking fluid
 - ✓ Cracks or chips

MANUAL SWITCHES:

- Properly labeled
- Ground connections
- Positioning and alignment
- Bushing and support insulators
 - ✓ Cracks or chips
 - ✓ Rust or dirt

MOTOR OPERATED SWITCHES:

- OPEN/CLOSED indicator
- Properly labeled
- Cabinet heater
- Operations counter

IX SUBSTATION - MONTHLY INSPECTION GUIDE (con't)

CONTROL HOUSE/MISCELLANEOUS:

- Clock displays proper time
- AC/DC load center breakers
- Room temperature
- Rodents
- · Panels labeled properly
- Panel lights
- Annunciator panel
- Panel meters
- SCADA system RTU
- SCADA alarms
- Position indicators agree
- Relay target information
- Emergency contact directory & dial tone for phone
- Safety Equipment

BATTERY:

- Liquid levels
- Proper float voltage on charger and battery
- Specific gravity in pilot cell
- Personal Protective Equipment
- Connection corrosion
- Leaking cells
- Dated solution in eyewash station

YARD AND FENCE:

- Fire extinguisher charged
- Fence ground connections
- Fence secured
- Security and emergency lights
- Site base and grade
- Standing water
- Warning signs

X Substation - Annual Inspection Guide

- Check equipment for level
- Check condition of concrete pads
- Perform oil and DGA analysis
- Battery
 - ✓ Intercell strap resistance
 - ✓ Individual cell voltages
 - ✓ Cell specific gravity
- Nameplate legible
- Equipment paint condition
- Proper equipment ID labels
- IR / RFI scans and checks

OVERHEAD DISTRIBUTION INSPECTION FORM	
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VIII DISTRIBUTION – UNDERGROUND INSPECTION GUIDE

STRUCTURAL (Exterior & Interior) Transformer, Primary Pedestal, Secondary Pedestal, Switchgear.

- Enclosure Condition
- Level/Leaning
- Security
- Grade/Accessibility (Shrubs, Customer Facilities, Fill/Excavation)
- Numbering
- Voids/Gaps
- Signage Location Number, Warning Sign
- Pad/Vault Condition

EQUIPMENT

- Transformers
 - ✓ Oil Leaks
 - ✓ Bushing Condition
 - ✓ Grounding/Bonding
 - ✓ Elbows
 - ✓ Arrestors
 - ✓ Feed-Through
 - ✓ Cable Condition
 - ✓ Secondary Connections
- Primary Pedestals
 - ✓ Elbows
 - ✓ Junction Condition
 - ✓ Grounding/Bonding
- Secondary Pedestals
 - ✓ Secondary Connections
- Switches URD Switchgear
 - ✓ Insulator Condition
 - ✓ Operating Handle Security
 - ✓ Linkage
 - ✓ Grounding/Bonding
 - ✓ Switch Number/Fuse Size & Number

INFRARED SCAN and RFI CHECK

- Main Three-Phase Feeders (Risers & Switchgear)
- Priority URD Transformer Banks
 - ✓ Bushing Connectors Primary
 - ✓ Bushing Connectors Secondary
 - ✓ General Tank Heating

UNDERGROUND DISTRIBUTION INSPECTION FORM Date_

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IX SUBSTATION - MONTHLY INSPECTION GUIDE

TRANSFORMER MAIN TANK:

- Oil in bushings
- Bushing and arrestor porcelain
 - ✓ Cracks or chips
 - ✓ Rust or dirt
- Oil leaks
 - ✓ Main tank
 - ✓ Sample valves
 - ✓ Radiators
- Radiator bank
 - ✓ warm on top, cool at bottom
- Tank pressure
- Tank oil level
- Temperature gauge
- Cooling fans

TRANSFORMER LTC or VOLTAGE REGULATORS:

- Tank oil level
- Drag hand positions
- Cabinet light
- Operation count
- Tank pressure
- Cabinet heater
- Cabinet contamination

TRANSMISSION CIRCUIT BREAKERS:

- OPEN/CLOSED indicator
- CHARGED/DISCHARGED indicator
- Cabinet light
- Cabinet heater
- Operations counter
- Bushings and supports
 - ✓ Cracks or chips
 - ✓ Rust or dirt
- Line and load side disconnect switches
 - ✓ Properly labeled
 - ✓ Aligned properly
- Handles grounded
- Emergency trip button
- Air / Oil compressors
- Air / Oil pressure gauge
- Spring operated mechanism
- Oil level gauge
- · Tank oil leaks
- Reset switch
- Cabinet contamination
- Vents clean
- Gas pressures for GCBs

IX SUBSTATION - MONTHLY INSPECTION GUIDE (con't)

FEEDER CIRCUIT BREAKERS / RECLOSERS

- OPEN/CLOSED indicator
- CHARGED/DISCHARGED indicator
- Cabinet light
- Cabinet heater
- Operations counter
- Bushings and supports
 - ✓ Cracks or chips
 - ✓ Rust or dirt
- Line and load side disconnect switches
 - ✓ Labeled properly
 - ✓ Aligned properly
 - ✓ Handles grounded
- Emergency trip button
- Oil level gauge
- Tank oil leaks
- Reset switch
- Cabinet contamination
- Vents clean
- Gas pressures for GCBs

HIGH AND LOW VOLTAGE BUSS WORK:

- Bushing, insulator, arrestor, and support insulators
 - ✓ Chips or cracks
 - ✓ Rust or dirt
- Bird nests
- Potential transformers bushings
 - ✓ Cracks or chips
 - ✓ Rust or dirt
- Cable terminators
 - ✓ Leaking fluid
 - ✓ Cracks or chips

MANUAL SWITCHES:

- · Properly labeled
- Ground connections
- Positioning and alignment
- Bushing and support insulators
 - ✓ Cracks or chips
 - ✓ Rust or dirt

MOTOR OPERATED SWITCHES:

- OPEN/CLOSED indicator
- Properly labeled
- Cabinet heater
- Operations counter

IX SUBSTATION - MONTHLY INSPECTION GUIDE (con't)

CONTROL HOUSE/MISCELLANEOUS:

- Clock displays proper time
- AC/DC load center breakers
- Room temperature
- Rodents
- Panels labeled properly
- Panel lights
- Annunciator panel
- Panel meters
- SCADA system RTU
- SCADA alarms
- Position indicators agree
- Relay target information
- Emergency contact directory & dial tone for phone
- Safety Equipment

BATTERY:

- Liquid levels
- Proper float voltage on charger and battery
- Specific gravity in pilot cell
- Personal Protective Equipment
- Connection corrosion
- Leaking cells
- Dated solution in eyewash station

YARD AND FENCE:

- Fire extinguisher charged
- Fence ground connections
- Fence secured
- Security and emergency lights
- Site base and grade
- Standing water
- Warning signs

MONTHL	YS	UBSTATIO	N INS	PECTI	ON FORM	
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DATE:						
SUBSTATION:						
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Bushing and Arrestor						
Oil Leaks						
Main Tank						
Sample Valves						
Radiators						
Radiator Bank						
Tank Pressure						
Tank Oil Level						
Temperature Gauge						
Cooling Fans						
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TRANSFORMER LTC or VOLTAGE REGULATORS		RATING: 0	1 2	3 4	(Circle One)	
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Cabinet Heater								
Operations Counter								
Bushings and Supports								
Line and Load Side Disconnect Switches								
Handles Grounded								
Emergency Trip Button								
Air Compressors - Air / Oil	ļ							
Air Pressure Gauge - Air / Oil								
Spring Operated Mechanism								
Oil Level Gauge								
Tank Oil Leaks								
Reset Switch	 							
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Gas Pressures for GCBs								
	 							
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SUBSTATION:								
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Bushing, Insulator, Arrestor, and Supports								
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Transformer Bushings								
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MANUAL SWITCHES	RATING:	0	1	2	3	4	(Circle One)	T
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Positioning and Alignment								
Bushings and Supports								
								1
MOTOR OPERATED SWITCHES	RATING:	0	1	2	3	4	(Circle One)	
OPEN/CLOSED Indicator								
Proper Labeling								
Cabinet Heater								
Operations Counter								
locking criteria								+
								<u></u>

MONTHLY INSPECTED BY:	Sl	JBSTA	TION	INSI	PEC	TIC	N FORM	
THE LOTED BY.							SIA I OICIVI	
DATE:				·				
SUBSTATION:								
CONTROL HOUSE/MISCELLANEOUS	S 	RATIN	G: 0	1 2	3	4	(Circle One)	
inspected	x		COM	MENTS			DATE	CORRECTE
Clock Displays Proper Time							CORRECTED	BY
AC/DC Load Center Breakers								
Room Temperature	1-1-							
Rodents								
Panels Labeled Properly								
Panel Lights								
Annunciator Panel						·		
Panel Meters								
SCADA System RTU								
CADA Alarms								
osition Indicators Agree	_							
elay Target Information	_							
mergency Contact Directory &								
haltone for Phone								
afety Equipment								
BATTERY		RATING:	0 1	2	3	4	(Circle One)	
quid Levels							1	
roper Float Voltage on Charger & attery								
pecific Gravity in Pilot Cell	-							
ersonal Protective Equipment	+		· · · · · · · · · · · · · · · · · · ·				 	
onnection Corrosion								
aking Cells	+-							
ited Solution in Eyewash Station	1-				· · · · · · · · · · · · · · · · · · ·			
VADD 6 TOWN								
YARD & FENCE		RATING:	0 1	2	3 4		(Circle One)	
e Extinguisher Charged								
nce Ground Connections	<u> </u>							
nce Secured								
curity and Emergency Lights								
Base and Grade								
nding Water								
rning Signs								

X Substation - Annual Inspection Guide

- Check equipment for level
- Check condition of concrete pads
- Perform oil and DGA analysis
- Battery
 - ✓ Intercell strap resistance
 - ✓ Individual cell voltages
 - ✓ Cell specific gravity
- Nameplate legible
- Equipment paint condition
- Proper equipment ID labels
- IR / RFI scans and checks

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ANNUAL SUBSTATION INSPECTION FORM

	ENANCE PLETED	ected By	ກວວ													
	COM		Date													
COMMENTS		Rating Criteria 0) Good Condition 1) Good Condition 2) Non-critical Maintenance Required 3) Priority Maintenance Required 4) Urgent Maintenace Required														
		ARI scans and checks														
ERIA	-			-	-	-				_						Ž
N CRIT	-		- -	-	_		-				-					
ECTIO	-		30	3 10			F 86-1	To all								
ATION INSP	, ,	sistance, Individual cell voltages	l LE													
UBSTA		eisylens AOO bns lio miohe	d					i i		Gir. Servi						
S		heck condition of concrete pads	0							+-		2000				
	-	heck equipment for level								+			-			
		EQUIPMENT LISTING	Transformer	LTC or regulators	High Voltage Breaker		reeder CBs / Reclosers				owitches			Control house bear	ransmission line RFI	
		SUBSTATION INSPECTION CRITERIA COMMENTS	SUBSTATION INSPECTION CRITERIA Sheck equipment for level check condition of concrete pads chorm oil and DGA analysis attery checks - Intercell strap attery checks - Intercell strap caistance, Individual cell voltages, seistance, Individual cell voltages, attery checks - Intercell strap attery checks - Intercell stra	SUBSTATION INSPECTION CRITERIA LISTING Check equipment for level Check condition of concrete pads Check condition of condition Check condition labels Battery checks - Intercell strap Check condition Check Rating Criteria Battery checks - Intercell strap Check condition Check Rating Criteria Check condition Check Condition Check Rating Criteria Check Condition Check Check Condition Check Conditi	SUBSTATION INSPECTION CRITERIA Check equipment for level Check condition of concrete pads Perform oil and DGA analysis Battery checks - Intercell strap Perform oil and DGA analysis Battery checks - Intercell strap Resistance, Individual cell voltages, Individual cell voltages Battery checks - Intercell strap Resistance, Individual cell voltages Rating Criteria Nameplate legible Equipment paint condition but aging Proper identification labels Battery checks - Intercell strap Rameplate legible Proper identification labels Required Required Required Required	SUBSTATION INSPECTION CRITERIA T LISTING Check equipment for level Check condition of concrete pade Check condition of analysis Check condition of analysis Battery checks - Intercell strap Perform oil and DGA analysis Check condition oil and DGA analysis Battery checks - Intercell strap Check condition oil and checks Rating Criteria Battery checks - Intercell strap Check condition oil and checks Rating Criteria Check condition labels Rating Criteria Check condition but aging Equipment paint condition Nameplate legible Equipment paint condition Required Proper identification labels Equipment paint condition Required Proper identification labels Required Proper identification labels Required Proper identification labels Required Proper identification labels Required Required Required Required	SUBSTATION INSPECTION CRITERIA SUBSTATION INSPECTION CRITERIA EQUIPMENT LISTING Check equipment for level Check equipment for level Check condition of concrete pads Check condition of concrete pads Battery checks - 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XI TRANSMISSION – ANNUAL INSPECTION GUIDE

STRUCTURE

- Pole Condition
- Pole Leaning
- Crossarm Condition
- Insulators, Deadend, Pin
- Excess Fill or Soil Removal
- Pole Steps
- Grounds Intact
- Ground Molding
- Down Guys
- Guy Markers
- Guy Bonding/Insulator
- Signage Location Number, Warning Sign
- Customer Equipment
- Conductor
- Tie Wires

EQUIPMENT

- Switches GOAB, Disconnect
 - ✓ Insulator Condition
 - ✓ Operating Handle/Locks
 - ✓ Linkage
 - ✓ Grounding/Bonding
 - ✓ Switch Number
- Arrestor
 - ✓ Insulator Condition
 - ✓ Connections

CLEARANCES

- Ground Line
- Buildings, Bridges, Etc.
- Communications Facilities
- Fuel Tanks
- Other Electric Utilities
- Over Streets, Roads, Alleys, Highways
- Tree Trimming
 - ✓ Clearance From Line
 - ✓ Vines on Poles
 - ✓ Danger Trees

XI TRANSMISSION - ANNUAL INSPECTION GUIDE (con't)

RFI CHECK

- Splices
- Connectors
- Dead Ends
- Switches
- Structures

XII TRANSMISSION - 5 YEAR INSPECTION GUIDE

IR SCAN

- Splices
- Connectors
- Dead Ends
- Switches

ANNUAL TRANSMISSION INSPECTION FORM

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Date

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	Corrected			:								
	Date Item Corrected											
	Da		 -		 			 				
COMMENTS	Rating Criteria 0) Good Condition 1) Good Condition 2) Non-critical Maintenance Required 3) Priority Maintenance Required 4) Urgent Maintenace Required											
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NCE	Streets, Roads, Alleys									·		
CLEARANCE	Sanstances Clearances											
CLE	Ground Line Clearances											
	Tree Trimming											
EQUIPMENT	Arresters											
EQUIF	Switches											
	KFI Check											
	Conductor and Ties		 									
	Customer Equipment											
	Signs, Loc#, Warning		 									
밁	Guy Bond, Insulator											
STRUCTURE	Down Guys and Markers											
200	Grounds Intact, Molding											
STR	Pole Steps											
	Sonditions											
	Insulators, DE, Pin										 	
	Crossarm Condition							 				
	Pole Condition/Leaning									 		
MAP AREA	LOCATION											